



Maximum Sustainable Yield: Wealth Management for the “Owner State”

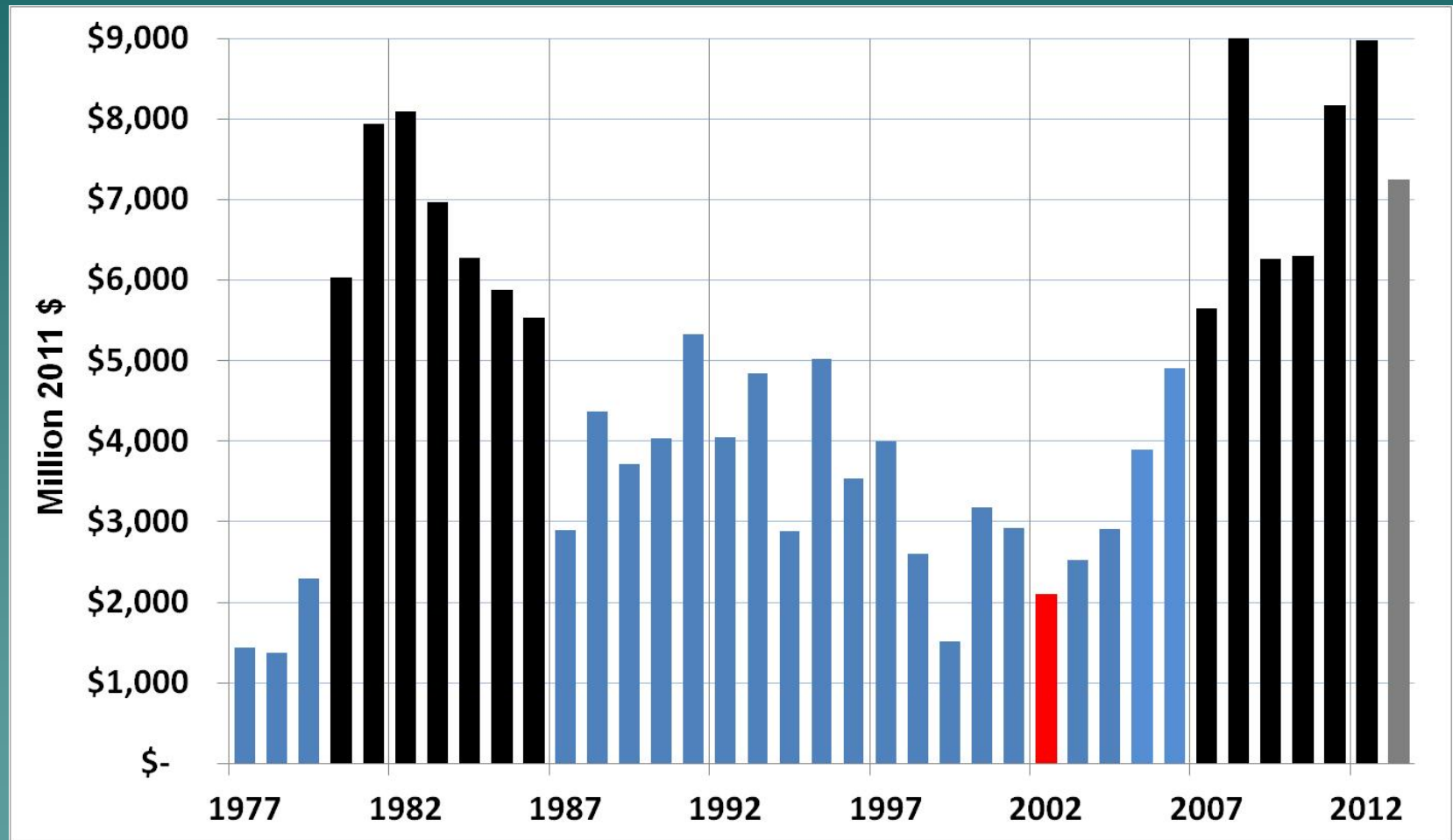
Alaska Foresters
Anchorage, Alaska
March 1, 2013

Scott Goldsmith
Institute of Social and Economic Research
University of Alaska Anchorage

With Generous Financial Support From



Alaska Petroleum Revenues: \$178 Billion since 1977



Petroleum: State Revenues



SAVE
\$45
Billion



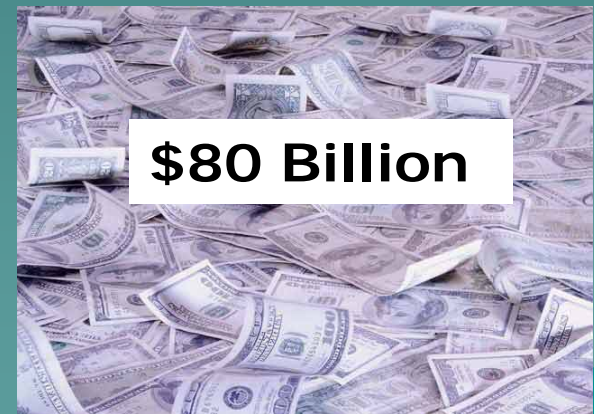
Lighter Tax Burden



SPEND
\$133
Billion



Greater Public Spending



59-13 in 2011 \$

Petroleum Wealth in our Infrastructure



Physical Capital



Human Capital



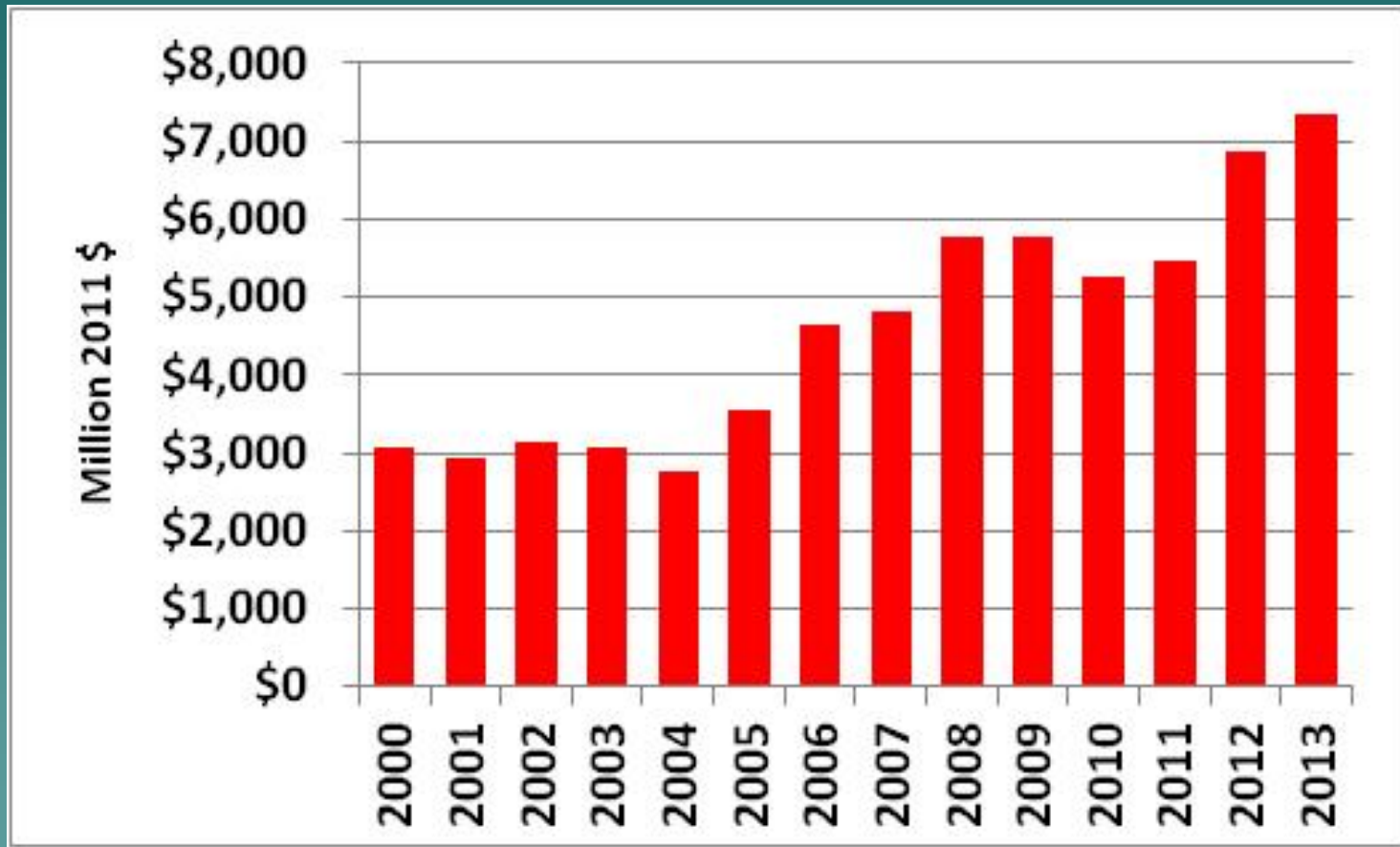


Petroleum Wealth in the Bank (Billion \$)



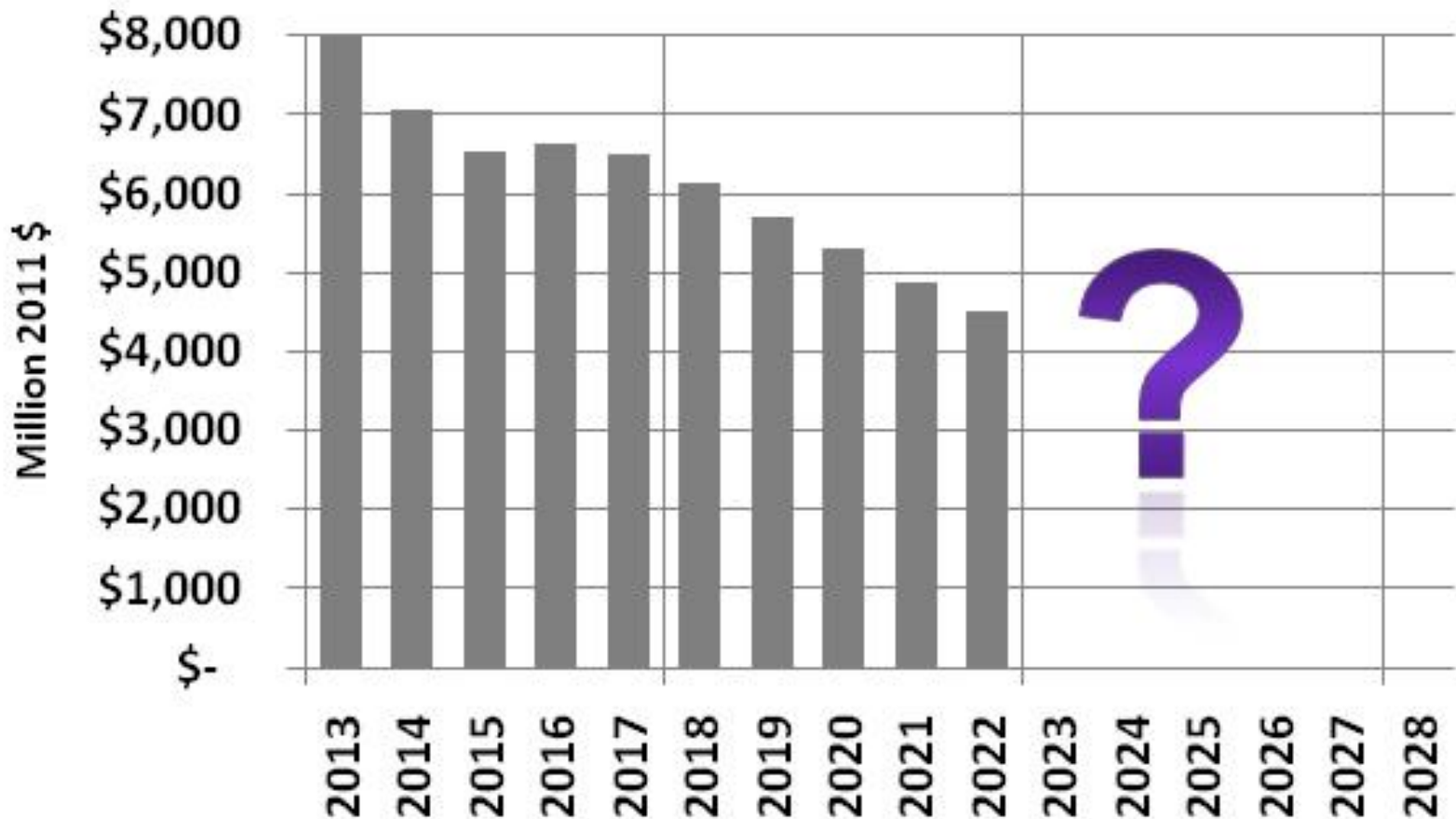
\$ IN THE BANK	\$60
Permanent Fund	\$42
CBR (Constitutional Budget Reserve)	\$18
SBR (Statutory Budget Reserve)	
GF (General Fund)	

GF Spending Has Grown to Match Higher Revenues



GF Appropriations net of Savings.

DOR Projected Petroleum Revenues





We are starting to
draw down our
savings

Have We Saved Enough to
Fund Necessary Public
Services in the Future to Help
Sustain our Economic
Prosperity?

Lots of Petroleum in Our Future

Alaska North Slope: Estimated Economically Recoverable Oil Resources (Billion Barrels)

TOTAL

28-38.5

Known Conventional

7-9.5

Known Unconventional

3.5-4.5

Yet to be Discovered

17.5-24.5

Table 2 Arctic Alaska Petroleum Provinces
Estimated Economically Recoverable Oil Resources (2012)

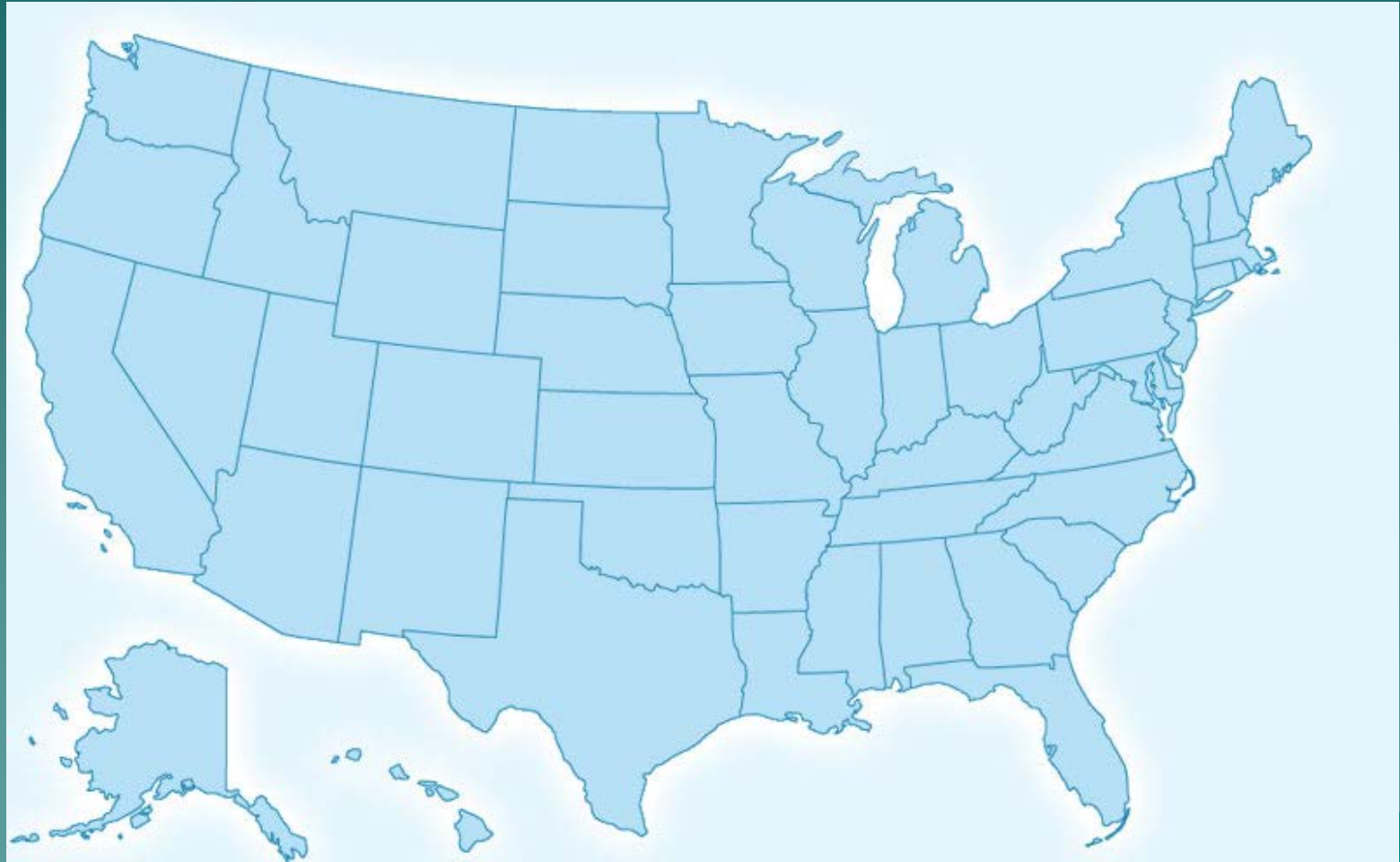
	Central North Slope	Beaufort OCS	Chukchi OCS	NPRA	ANWR 1002	TOTAL
KNOWN CONVENTIONAL						7-9.5
Economically Remaining	4.3-6.3	.1		.1		4.5-6.5
Reserves Growth in Existing Fields (Conventional Oil)	2.0					2.0
Known But Undeveloped	5					5
KNOWN UNCONVENTIONAL						3.5-4.5
Reserves Growth in Existing Fields (Viscous/Heavy Oil) Shale Oil	3.0-4.0					3.0-4.0
Yet to be Discovered	5					5
YET TO BE DISCOVERED						17.5-24.5
Near-Term (to 2020)	.6	.7		.2		1.5
Long Term (after 2020)	2.1	4.3	9.5	.3	0-6.8	16.2-23.0
TOTAL	13.0-16.0	5.1	9.5	.6	0-6.8	28.3-38.0

Source: ISER Estimate.

But Limited Petroleum Revenue

	Production Tax	Royalty	Corporate Income Tax	Property Tax
State				
Conventional	Y	Y	Y	Y
Conventional Marginal	?	?	Y	Y
Unconventional	?	?	Y	Y
NPRA	Y	1/2	Y	Y
ANWR	Y	0	Y	Y
OCS	0	0	0	0

Alaska: An Island Economy



Non-Petroleum Strategies for the Future

- Natural Resource Development
 - Value Added Processing
 - Economic Diversification
 - Infrastructure Investments in Power and Transportation
 - Footloose Industry
 - Renewable Energy
- 
- A stylized silhouette of a mountain range in a darker teal color, located in the bottom right corner of the slide.

State of Alaska

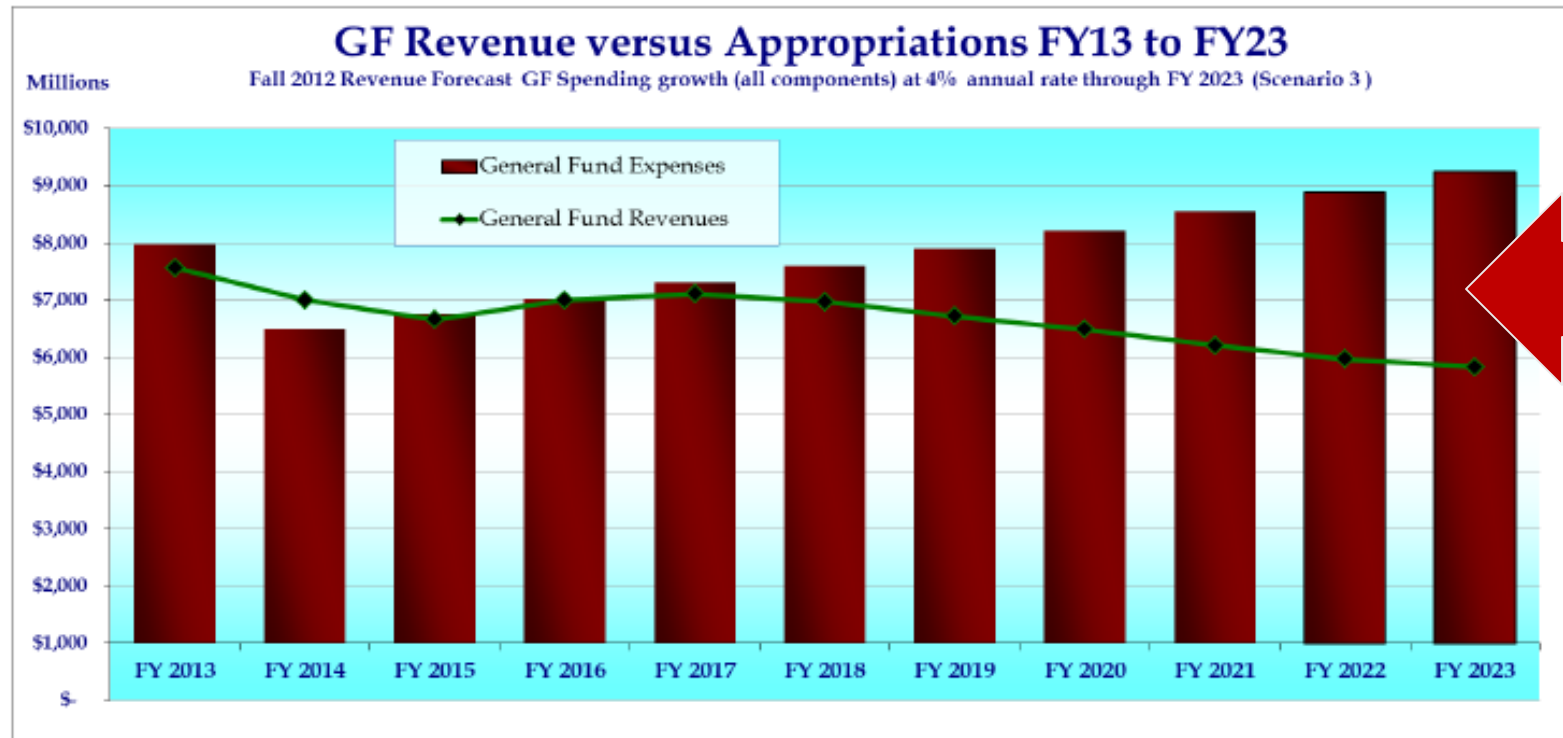
FY2014 10-Year Plan

Governor's Office of Management and Budget
Karen J. Rehfeld, Director

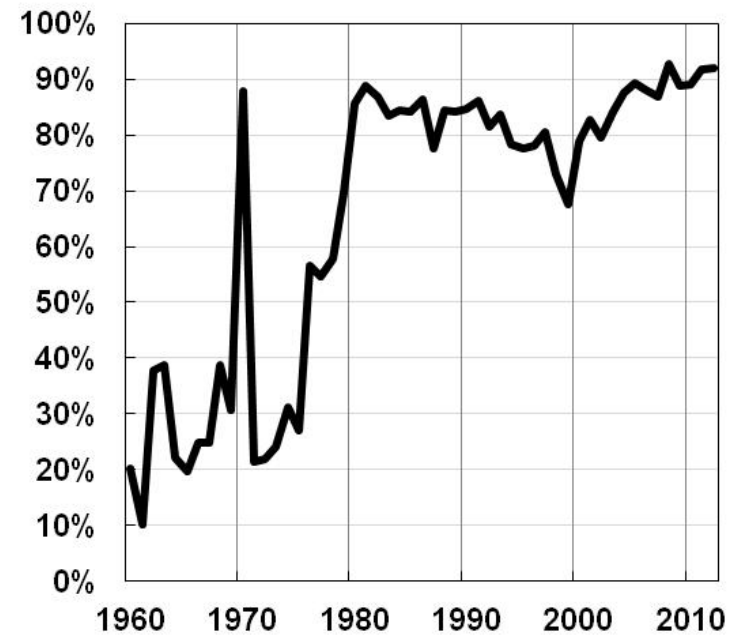
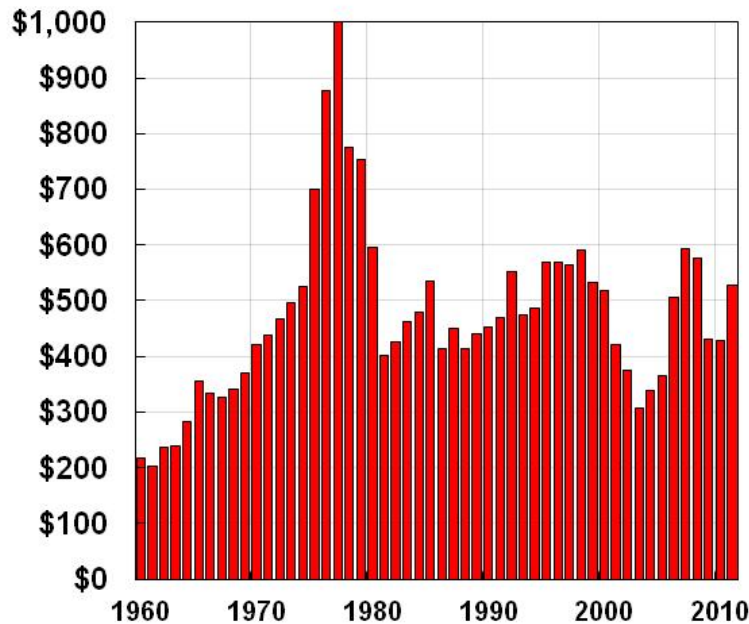
FY2014

State 10 Year Fiscal Plan

Scenario 3: Governor's FY2014 Budget with 4% Annual GF Expenditure Growth beginning in FY2015



Progress Toward Fiscal Diversification



Replace \$7.5 Billion in Petroleum Revenue with Taxes on Other Resources



\$10,000 /
OZ. GOLD



\$5,000 /
TOURIST



\$50 /
SALMON

*Estimate for FY 2011



Alaska is the “Owner State” and Petroleum is Our Biggest Asset.

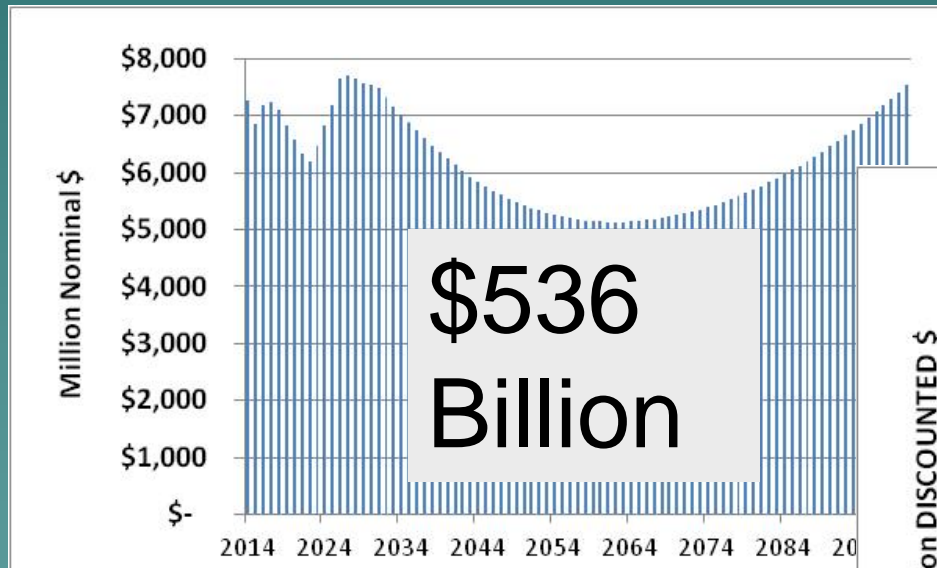
- 1) How Big is Our Nest Egg?
- 2) How Should We Manage It?
- 3) How Should We Distribute its Earnings?



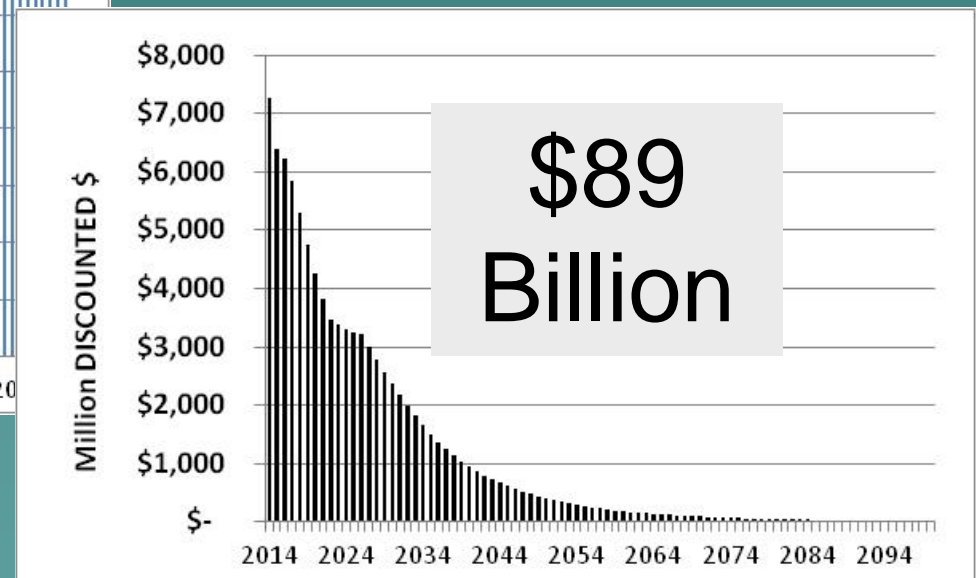
Petroleum Wealth in the Ground



NOMINAL



DISCOUNTED
NET PRESENT
VALUE



Total Petroleum Wealth of the “Owner State”



TOTAL	\$149 Billion
In the Bank	\$60 Billion
In the Ground	\$89 Billion



\$200,000 for each current resident



HOW SHOULD WE MANAGE THE NEST EGG (Asset, Endowment)?

For Maximum Long Run Return

HOW MUCH OF THE NEST EGG SHOULD WE SPEND?



Draw each year at a rate that will
conserve the value of the Nest
Egg for future generations of
Alaskans—the Maximum
Sustainable Yield.

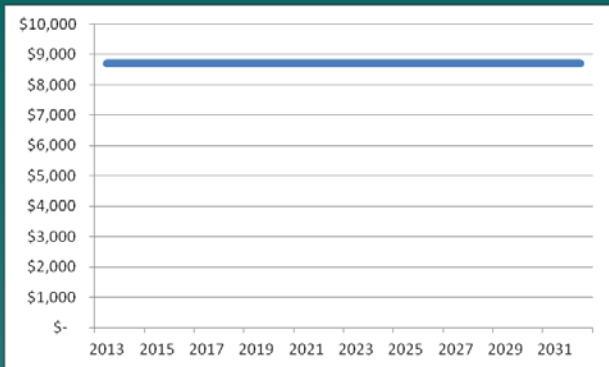
Maximum Sustainable Yield Calculation

Nest Egg	\$149 Billion
Investment Return (After Inflation)	5%
Population Growth	1%
MSY Draw Rate	4% = (5%-1%)
MSY Draw	\$6 Billion = (\$149*4%)

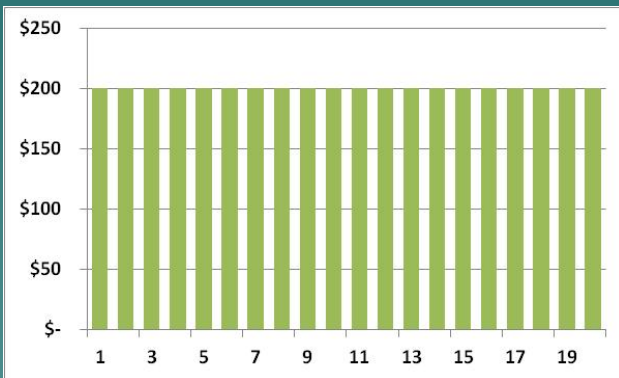
This answers the Savings Question.

Save all revenues and financial earnings over and above the MSY Allowable Draw.

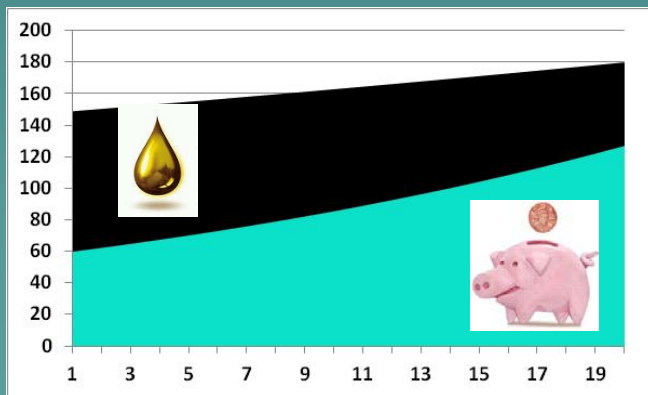
Then future generations of Alaskans will share equally with us today in the wealth from petroleum.



- Spending Per Person Maximized and Constant (Real \$ Per Capita)



- Value of Nest Egg Per Person Maximized and Constant (Real Thousand \$ Per Capita)



- Nest Egg Grows With Population (Billion Real \$)
- Non sustainable oil revenues transformed into sustainable financial assets

Saving & Reinvestment

Nest Egg



Financial
Earnings

Oil & Gas Revenue

Nest Egg Revenues

Draw Rate 4%

Maximum
Sustainable Yield

Permanent
Fund
Dividend

\$6

\$1

GF Non
Petroleum
Revenues

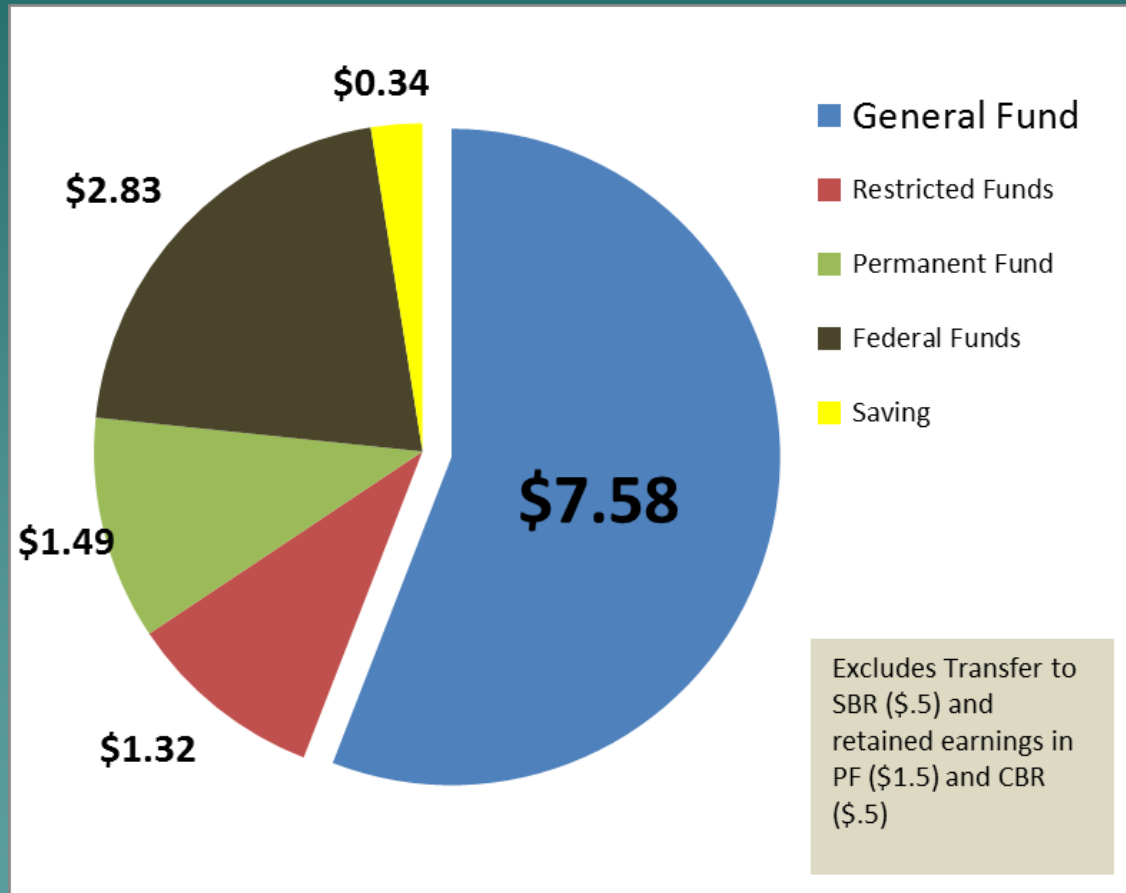
\$.5

MSY General
Fund
Spending

\$5.5

Oil and the Alaska Economy

Alaska State Budget \$13.56 Billion in FY2013



FY 2013 General Fund Spending (Billion \$)

GF Actual Spend (Billion \$)	\$7.6
GF Maximum Sustainable Yield Draw*	\$5.5
GF Over Spend Fiscal Burden & Asset Erosion	\$2.1

- After subtracting endowment spending on the PFD and adding in non-petroleum revenues.
- To get on a MSY path, save all revenues above this amount.

Fiscal Strategy



"Please God, give us another oil boom, we promise not to @#&%! it away this time"

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by

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Saving & Reinvestment

Nest Egg



Financial
Earnings

Oil & Gas Revenue

Nest Egg Revenues

Draw Rate 4%

Maximum
Sustainable Yield

Permanent
Fund
Dividend

\$6

\$1

GF Non
Petroleum
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\$.5

MSY General
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Spending

\$5.5

Oil and the Alaska Economy

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Oil and the Alaska Economy